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THE KOJE DO PROJECT - PROGRESS AND PROBLEMS

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(This is the first of several experimental projects in health care delivery sponsored by the Christian Medical Commission. It is reported here not only to give encouragement to others who might wish to experiment similarly, but to share with them some of the frustrations of such experiments so that they might, hopefully, avoid them!
James C. McGilvray)

The Korean Scene

South Korea is a nation of 30 million people, the third most densely populated nation in the world (300 per sq. km.), where literacy is estimated at 71%, education and a home in the capital of Seoul hold the highest status, the GNP per capita is US$164, and the population is 61% rural in location. Economic development has been going through a major transformation since 1960, with an annual rate of increase in the GNP per capita of 4.5%. There are 14,000 licensed physicians, approximately 95% of them medical school graduates (1/2000 population); 3000 Chinese herb practitioners; 12,000 nurses (1/1900 population); with about 80% of each group living and working in urban areas. 1% of the government budget is for health ($0.30 per capita), while total health expenditures equal 2% of the GNP. The seven most common causes of death, all ages, (rate per 10,000), are pneumonia (4.4), tuberculosis (3.6), cerebral vascular (2.6), malignancies (2.6), gastroenteritis (1.4), accidents (1.3), and heart disease (1.2). The infant mortality rate is 58/1000, the maternal mortality rate, 9/1000, and the 1-4-year mortality rate, 8/1000. Crude rate of natural increase is 25/1000. The country is covered by a system of regional hospitals (provincial, 1/1,500,000+ population), health clinics (1/100,000 population), health sub-clinics incomplete (1/10,000 population), which function relatively well in the fields of family planning and tuberculosis, less well in immunizations, and negligibly in the remainder of health services. A great deal of medical care is carried on solely across drug-store counters (only narcotics exempt). The Korean medical legal structure is far more sophisticated and rigid than the services it seeks to regulate, and it is difficult to

deviate significantly from a strict, traditional medical approach without being in violation of the law. Mission hospitals are virtually all of high quality, only recently equalled by that of a few Korean institutions. The costs per patient-day in mission hospitals is $5 to $7, while the average daily personal income is about $0.40.

The Koje Do Project Proposal

In this context the Koje Do project proposal was developed "to study the effectiveness of a six-point project:

1. a broad, community-centred health programme consisting of family planning, public health, and a scientifically controlled, sub-maximal curative medicine, co-ordinated with -

2. a community development effort to encourage the local residents to organize and participate in cooperatives and other self-help projects -

3. carried out in close cooperation with and along the lines of the Korean Government's plans, with a major effort made to -

4. adapt the scope of the programme to the potential resources of the community, thus making self-support a feasible objective, and to -

5. involve the church congregation at the village level in the project as a concerned and motivating force, as well as to -

6. avoid major capital investments that cannot be recovered or easily incorporated into other programmes."

The island of Koje Do - 10 kilometres (6 miles) off the south coast, 35 kilometres (21 miles) long (N-S), and 25 kilometres (15 miles) wide (E-W) - was chosen as the site for the project (island population 120,000, second largest island in Korea, 75% agrarian dependent, annual per capita expenditure: 72% spend less than $72). The choice of the island was made because of its location (three hours from the second largest city and separated from the areas undergoing rapid economic development), because of its doctor (medical school graduate) to population ratio (1/120,000), and because of community receptivity. The three northern townships (combined population 30,000) were chosen as the primary target area, with simple medical and living units to be constructed at the approximate geographical centre. In addition to the one medical school graduate physician, there were six other licensed doctors and five Chinese herb practitioners. Populations of the largest towns approximate 3000 each. Bus transportation is available on the main central roads of the island several times per day but not on the many side roads. There are also about 40 taxis. Passenger boats run several times a day linking both the east and the west coasts of the island with the mainland. Electricity is moving into the island but at present covers less than

20 per cent. Telephones are available in central towns and improving. Neither telephones nor electricity have reached the Koje Do project site as yet.

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The Koje Do project, from its initial 'first draft' conception as an idea to the present time, has been in progress for approximately three years. During that time it has gone through a number of stages in development - first as a concept on paper, then in actuality on Koje Do. These stages, their nature, their length, and their outcome have been closely tied to the stages in development that the project's director simultaneously has gone through as he has attempted to transform himself from an institutionally-oriented general surgeon to a community-oriented medical project director. It goes without saying that a far preferable method is to first develop the director and then the project, but such was not the case. The Koje Do project was thus subjected to a series of painful contortions along with its director - contortions the likes of which no respectable project should have to endure. Because it is likely that somewhere again such an unfortunate circumstance may be deemed necessary, it was thought of value to record the results, the progress, and the problems. Therefore, this paper is in part a report of those stages or contortions of development that both the Koje Do project and its director passed through together. But because I do not believe these stages are unique to Koje Do, it is also a commentary on what can likely be expected wherever and whenever a traditional, institution-oriented physician tries to break away from his past and from his institute and move out significantly into the community to head up a community health effort.

I would number four stages in the transformation of such a physician:

1. Recognition
2. Response
3. Trial and Tribulation
4. Dénouement

Stage One: Recognition
(recognition on the part of the physician of the inadequacies of institutionalized medicine)

"To every mouth its own spittle tastes sweet." - Oriental Proverb

If one accepts the fact that the delivery of effective medical care by the church throughout this world will be dependent largely upon convincing the many traditionally trained missionary physicians now staffing mission institutions that there is a 'better way', it becomes of great importance that we do everything possible to instigate Stage One in as many traditionally trained and oriented missionary doctors as possible. But, as we are all very well aware, this is extremely hard to do. It took six years of exposure plus dissatisfaction with more than just the health care delivery system of the institution in which I was working to induce me to even consider the thought of a better way. Patient gratification for service rendered and the prompt appearance of beneficial results are the daily proof of value to the traditionalist, and he feels little need for additional justification. Furthermore, if for

him the chief aim of mission medicine is to win converts to Christ, the individual attention, easily visible results, and high drama provided by institutionalized medicine provide a favourable atmosphere of unequalled excellence; and suggestions that there are 'better ways' fall on deaf ears.

However, the preaching of the Christian Medical Commission has been effective, and in recent years it has brought a change, at least to Korea. The complacent assurance of the most confirmed traditionalists has been shifted to an irritation with any discussion of the principles of community medicine or a quick defensiveness that is not dispelled by reassurances that "The institution is also still needed". And for the less fully confirmed traditionalists doubts are beginning to drive an opening wedge, a crack in their conviction that they are doing all they can. If the Commission is in the business of trying to reach the deeply concerned but tradition-oriented and institution-bound Christian physician with the realities of health care delivery, it is at this stage that its influence can be crucial. There is likely no better method to help this uncertain traditionalist find his way than to provide him with the means for carrying out a simple but objective study of the effectiveness of the health care system of which he is a part. The Commission cannot be expected to carry out such a study for him - and should not. It must be done by those within the institution, or it is likely to be accepted as merely critical rather than objective. It is not easy to induce an institution to undertake such a study, but I have often wondered if the availability of a simple guidance manual providing the basic procedural information - the methods to be used, the type of questions to be asked - would not make it easier for the physician with a few growing doubts to quietly look into the situation. The results would likely be far from professional, but it need be only good enough to convince him that institutionalized medicine alone is not the answer for the area in which he works.

Stage Two: Response
(response on the part of the physician to his recognition of the inadequacies of institutionalized medicine)

"The beginning of learning is silence, then comes hearing,
then writing, then work, then promulgation." - Oriental Proverb

Recognition of a problem, to be of any value, must of course be followed by a response. But the quality of response is of utmost importance in this particular situation. The easiest and most tempting course for the jolted physician to follow is just to tack a little outreach onto his institution - a little public health onto his traditional medicine. This can quiet any haunting concern that he may not be doing enough and still allow him to continue pretty much as he was - institutionalized - with 95 per cent of his effort expended on a very small per cent of those who need him.

The only thing I know that will drive him to a more substantial response is education, or more exactly, re-education - education into the realities of effective health care delivery, education that dispels once and for all the belief that a little modification is all that is needed.

I was given a very unusual opportunity in this regard that included a trip to the US for extensive interviews, a return trip through Geneva for my initial contacts with the CMC, and time to travel extensively within Korea. The result is graphically demonstrated in a comparison of two papers - the 'before' and 'after' - the first ("A Dilemma and a Proposal") written after the initial stage of "Recognition" and the second ("Koje Do Community Health and Development Project - Proposed Plan - Objectives - Methods") written after six months of exposure to people in the business of delivering health care. The proposed plan of the first was nothing more than a modification of institutionalized medicine. The proposal of the second, though still somewhat superficial, was oriented instead to the community. Any assistance that the Commission can give to make re-educational opportunities readily available to concerned physicians would be highly beneficial.

The question here of course is how much education is enough. The problem is minimized if the physician's past training has included Public Health or Community Medicine or at least Paediatrics or Obstetrics. But the people most competent to take significant responsibility in new forms of care delivery are not always the ones in a position to see the need nor the ones able to make the move to meet it. Obviously, the more re-education that a traditionalist can receive before moving into an untraditional field, the greater his ability to work in that field. But urgency, time and practicality are limiting factors. Doors open, and some doors close again, and a move too late is an opportunity lost. The question thus is often not so much how much education is enough, but rather how little is tolerable - or again, how much incompetence is still acceptable.

As for myself, being a general surgeon majoring in plastic procedures, I was hardly the ideal person to initiate the Koje Do project, a project which has, since its beginning, majored in a wide variety of public health, medical and paediatric problems, personnel tangles, administrative difficulties, and construction tie-ups - but to date only one major surgical case. Six months of exposure to experts in the delivery of health care did little more than point me in the right direction. More time for re-education would have eased some problems and, though it would have also created others, probably should have been insisted upon, if only for a few short intensive months.

But even with that, the physician coming out of a long traditional past is ill-prepared for what awaits him if he tries to move fully into the field of Community Medicine. But move he must, and Stage Three is, I would presume, inevitable to some extent in all such situations.

This move, however, need not and, wherever possible, should not be to leave the institution behind. It is well recognized by the Commission that the outlook of Christian medical care delivery will not really begin to change until the many mission institutions around the world have begun to reorient themselves to the community. But few institutions will be able to accomplish this on their own, and plans by the Commission to make technical assistance available where requested are urgently needed.

Stage Three: Trial and Tribulation
(the implementation of plans generated by the physician's response - and the deep tribulation that results)

"There passed a weary time. Each throat
was parched, and glazed each eye.
A weary time! a weary time!"

- Samuel Taylor Coleridge, "The Rime of the Ancient Mariner"

I will not try to carry you through our tribulations blow by blow but only try to pinpoint and illustrate five causative factors that have become obvious and which are likely to be present in Stage Three of any similar effort.

The First Causative Factor: Tradition Dies Slowly

- and expectations to the contrary meet with grief. Even though the traditionalist-turned-community physician may talk the right language, the principles of his past training and thought processes continue to influence him significantly, usually with detrimental results.

For myself and the Koje Do project the best of several examples of this was the tenacity with which I held onto the conviction that our medical doctor, the physician who virtually was to run the programme, must be a traditionally and recently well-trained physician. I held this conviction through the first full 18 months of the project's conception, despite the fact that I could find no such candidate, and it took a visit to Korea of the CMC director to bring this to my attention. In the Korean context such an idea is not wrong were such a candidate available and were he open to detraditionalization, but a six-month search should have been enough to convince me that he did not exist.

The Second Causative Factor: Extensive Diversity of Demands

The variety of demands of a community medicine project is extensive, and unless there is a wide variety of expertise among the usually limited staff working with the physician or living in the community, responsibility for meeting these demands initially falls upon the physician. Thus he may be called upon to be not only the health planner but also the purchaser, the educator, the administrator, the community liaison, the accountant, the local sociologist, the physician, the mechanic and the social worker. This would be challenge enough for the experienced community medicine physician who has anticipated such demands in his planning, but for the poor traditionalist whose experience is limited to medical rounds, unlimited staff, operating rooms and libraries, this is a devastating and unnerving experience. He finds himself going in a dizzy circle from one crisis to another, never able to stay with one long enough to do it any good before he is forced to turn his attention to another. Examples: What is the minimum needed in setting up a competent accounting system capable of reporting to Geneva? (Our temporary answer: An American high school graduate on the island and a patient, long-enduring certified accountant 300 miles distant with four hours of consultant time available monthly.) What does one do when the only good refrigerator in the area breaks down

while fully stocked with vaccine and the nearest maintenance is miles away? (Our somewhat inadequate answer: Shake it hard and pray.) Where can one find an inexpensive X-ray unit small enough to hand-carry to the mainland for repair, that will run on a generator also small enough to hand-carry, and yet will take good chest and extremity films? (Our belated answer: An Hitachi PT 82 for $450 - Japan.) How does one set up a programme in which self-support is a feasible objective when, although we are running a full patient load and our expenses are still five times our receipts, still over 20 per cent of the population cannot afford our charges!? (Our answer: Deferred. Hopefully through medical insurance and an effective discount system.) But how do you develop a satisfactory discount system when the local government only classifies the lowest 3 per cent of the population into economic categories and when only less than 1 per cent of those who come to the hospital ask for a discount? (Our inadequate answer: Request the local government for an economic classification of the lowest 20 per cent.) And so it goes. Problems and questions far beyond the competence of the physician in charge. The result? He becomes swamped. Planning time becomes inadequate, and the project bogs down.

It is absolutely essential for this reason alone that the scope of the project be as limited as possible. This was not recognized at the start of the Koje Do project, and instead of limiting the scope, it was inadvertantly enlarged by one factor which is exceedingly pertinent to this present discussion. That factor: location. The initially planned site of the project, at the edge of a fairly prosperous and active town, was changed for a number of reasons to a more isolated area 3 kilometres distant. The reasons for the change were in themselves defensible, and still are; but the decision had repercussions not at all appreciated at that time. For by choosing an isolated area, we (a) were required to develop a new community and essential community services; (b) had to undertake a major building programme, which in itself was a significant experiment; and (c) introduced far greater personnel problems due to isolation than might otherwise have existed.

The Third Causative Factor: Incomplete Understanding of the New Task

Just as in any speciality a textbook knowledge of community medicine unamplified by actual experience is inadequate even for a beginning effort. 'Improved health', 'community involvement', 'health education', 'economy medicine', 'medical insurance' - these are terms simple to understand but fantastically complicated to effectively implement. And their complexity can be understood only by personal confrontation in a real situation. Any one of these terms is a major project in itself; and included as objectives, too many of them will, merely by their complexity, overtax the newly emerging community physician.

Thus here too it needs again to be emphasized that the scope of the project must be kept as limited as possible.

The Fourth Causative Factor: Lack of Experience in the Local Situation

In retrospect one of our difficulties in implementing the Koje Do project proposal was that the proposal itself was based on practical ex-

perience gained in countries other than Korea. There were almost no well-balanced public health or community medicine programmes with any depth of experience from which to learn within Korea at that time, and we were slow to recognize that solutions in Korea would be different and that, in the words of Dr John Bryant, though many of the problems of developing countries are similar, "great differences are to be found in the settings of those problems, the culture, the tradition, the economic capability, and the style of handling problems."

There are innumerable examples to illustrate this point. I will list several in the form of the initial supposition we made and the results that followed.

Supposition: Korea was considered an ideal setting for the expanded use of paramedical workers in view of the extreme sparsity of medical practitioners in the rural areas.

Result: The strict medico-legal code, among other things, specifically forbids nurses to carry out any form of treatment. Though largely unenforced, it hangs like a cloud. A nurse in Pusan was on trial one year ago for giving a previously ordered streptomycin injection in the doctor's absence to a patient who subsequently died. She was convicted. Because of the risk our public health nurse was concerned about continuing our immunization programme and was encouraged to stop by a responsible department chief of the Ministry of Health.

Supposition: Koje Do was thought to be an ideal setting for simplified curative medicine, for there has never been anything other than that on the island.

Result: The residents of the island are disappointed in our simple set-up, their feelings well expressed by an ancient granny from a small, undeveloped village back in off the coast. She was dismayed that we did not have at least five departments and doubted if it was worth a trip to see us.

Supposition: With transportation to most areas relatively available and relatively inexpensive, it seemed that it would not be difficult to set up an effective curative medical system using a combination of daily out-patient clinics at the central unit and repetitive outreach visits to remote areas at bi-weekly intervals.

Result: The attendance at the outreach clinics fell of dramatically after the first one or two visits, and more significantly only 12 per cent of the seriously ill patients visiting the central unit return for a second visit, necessitating a far more active home visiting service than we had anticipated.

Supposition: Since our project is located within the government health clinic's jurisdiction but in an area at a sufficient dis-

tance to make adequate coverage by the health clinic difficult and since inadequate coverage by the health clinic includes immunizations of the 0- to 5-year-old group (DPT-2%, Polio-12%, BCG-17%, Smallpox-45%, Measles-11%) and since our plans for cooperation with the government programmes were given strong endorsement by the Ministry of Health, it seemed logical to begin our cooperative effort in this area and to expect good results rapidly.

Result: Development of a cooperative effort was initially very slow and frustrating with communication breakdowns, duplication of efforts, misinterpretation of incentives, negligible sharing of supplies, obstruction of efforts. Even to date our cooperative efforts show minimal results. We are now aware of our own short-comings, and the future may tell a different story. But our expectations are more cautious than before.

And finally and most devastatingly because such a project must be largely indigenous:

Supposition: A Korean Christian doctor would need to be carefully chosen from among a number of applicants, someone who, from the beginning, could carry a major portion of responsibility and leadership.

Result: For a doctor seeking success, going to an island to practise would be breaking all the accepted mores of society; and to take his family there would virtually negate their chances for future higher education. In two years of hard searching we had only one application. His traditionalism is unshakable, and he has thus been unable to carry significant leadership.

The Fifth Causative Factor: Emotional Impact of the Transformation Process

When a traditionally trained physician breaks away from the institution and moves out into the community, he is, to a variable extent (depending on his previous specialty), walking into an emotional wringer, for he is leaving a field in which he is a recognized authority and moving into a field in which he likely is an authority in virtually nothing. He is leaving a field in which he has security in his judgements and confidence in his expectations and moving into a field in which his initial judgements will be largely faulty and his expectations unfulfilled.

I will not dwell on this, for it is a problem that is rectified with the growth of experience and is largely offset if one's incentives are sound. But its presence does need to be recognized, for it is potentially detrimental.

I have outlined five causative factors in this stage of tribulation. Before finishing with it and moving on to a more encouraging phase, I

would like to comment on one final aspect related to this stage - those factors which were operative in helping us bring it to a close. Though a number of such factors were involved, I would like to pinpoint three:

1. The realization, slow in coming but important in its effect, that Korea is not yet ripe for the successful implementation of a programme with aims such as ours; that a 'broad community-centred health programme' needs more qualified staff personnel ready to stay and work in a rural area than are now available or a less strict medico-legal structure than the one at present, which prevents amplified use of paramedical personnel; that 'community self-help projects' need a tremendous amount of education regarding the importance of cooperation and mutual trust beyond family circles; that 'close cooperation with the government health programme' requires long patience, elaborate communication, and mutual understanding of incentives; that 'self-support' awaits the successful achievement of the three above goals; and that 'church congregational involvement' will be negligible as long as the prevailing theology is strongly oriented around personal salvation with little emphasis on responsible social action.

   The emphasis of the project has therefore been shifted one step down to that, basically, of education. Our basic aim remains the same - to develop an effective system of health care delivery for this area. But the means by which we shall eventually achieve this are now recognized to be through a strong programme of exposure to the problems of and education concerning answers to health care delivery in rural Korea.

2. The tremendous influence of the Christian Medical Commission, direct and indirect, not only upon the Koje Do project but also upon Korean medical centres, national and missionary. I will not expand on this now due to limited time except to say I see significant effects in two forms: one through the specific 'preaching' of basic concrete principles and, secondly, the untold momentum given to such preaching because it comes from a Commission with membership of this calibre.

3. The immeasurable assistance of advisers. Our present input by advisers is considerable. We have leaned heavily on these advisers, and they have been indispensable to our progress. It was on the recommendation of this Commission that a search was made for one of these, the project evaluator and planning adviser, culminating in the addition of Dr Kit Johnson to the Koje Do project staff. I cannot emphasize too strongly the importance of his contributions and am not overstating the case when I say that our present hopeful situation (see below) is largely due to his efforts - in the laying of a solid system for patient data collection; in engendering considerable interest and participation in the project by two major universities; in laying out broad, practical plans for the delivery of health care; and in evaluating and describing health care delivery systems both on Koje Do and in Korea at large. It has not been entirely easy. I doubt there is anything

more frustrating to a specialist in health care delivery than to stand by and watch a traditionalist go through Stages Two and Three described above. And for my part let me say there is nothing more devastating than an evaluation by a frustrated evaluator. But the part Kit has played - and continues to play - is absolutely essential for any project of similar nature.

Stage Four: Dénouement

"When the dust passes, thou wilt see
whether thou ridest a horse or an ass." - Oriental Proverb

It is difficult to be precise as to when a project has passed out of the Stage of Tribulation into the Stage of Dénouement - when the smoke begins to clear and a real project takes shape, when wheels begin to grip rather than to spin. For the Koje Do project I would say we moved into Stage Four during the early months of this year, and I will close this paper with the key factors that make up my defence of that statement:

1. The clinic is busy - averaging 40 patients per day with a high of over 90 - indicating an acceptance of value on the part of the community.

2. A breakdown of the director's utilization of time shows a far better distribution than six months ago when 'personnel problems' took an inordinate amount.

3. The Koje Do community members of the Board of Directors meet with the project leaders once a month, frequently joined by the area's township chiefs, to discuss plans for community co-ordination.

4. A number of outreach programmes are taking root:- the well-baby clinics, TB home visiting, maternal health's mother-at-risk programme, home visiting nursing, and outreach programmes in adjoining townships.

5. The nurses' aides, all from local villages, have taken over significant responsibilities effectively and enthusiastically, including Family Planning and Health Education.

6. A prominent hospital in Pusan (Gospel) rotates one of its nurses to us for intervals of six months and four of its nursing students for a week every month (March to August).

7. The School of Public Health of Seoul National University (Korea's top institution) rotates its faculty and students to the project for a week's field experience twice a year. By August this year this was scheduled to total 210 student-days and 130 faculty-days, the cost to date underwritten by the China Medical Board.

8. The Preventive Medicine Department of Yonsei University has agreed to allow a second-year MPH physician to spend his final year working with the project in order to gain field experience and help in the project's development. It is also very likely that a nurse, also a second-year MPH student, will join him.

9. UNICEF has approved, in principle, the support of a proposed programme wherein eight medical students from the Pusan Medical School will be rotated each week to the project for field experience in Community Health, the programme to begin in 1972 or 1973.

Large gaps still remain in our programme. Major problems still have no answers. And the future is by no means free of major frustrations and setbacks. But I think it is fair to say, now that the dust is settling, that we are indeed not astride an ass.